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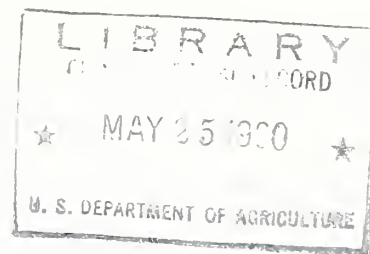
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# COMMERCIAL POULTRY SLAUGHTER PLANTS



## IN THE UNITED STATES

Number • Size • Location • Output

UNITED STATES DEPARTMENT OF AGRICULTURE  
Marketing Economics Research Division  
Agricultural Marketing Service

## PREFACE

Since World War II there has been a sharp increase in the production of poultry meat and in the processing of poultry in country plants. With these trends has come a demand from the industry for more complete market news reports on the movement of poultry from farms into trade channels.

In 1953 research was undertaken by the U. S. Department of Agriculture to provide this information. The Commercial Poultry Slaughter Report was developed and became a regular service of the Dairy and Poultry Market News Branch, Agricultural Marketing Service, on July 1, 1956.

During the course of the research a considerable amount of information was obtained, for the first time, on characteristics of poultry processing plants on a national basis. Since then, additional information has become available on trends in the industry. This publication summarizes this information for research workers and others. It also provides information regarding the period preceding compulsory Federal inspection of poultry slaughtered for movement in interstate commerce. It is a part of a broad program of research to increase efficiency in marketing farm products.

## ACKNOWLEDGMENTS

Poultry processors who cooperated in supplying information made possible the development of the Commercial Poultry Slaughter Report. The Dairy and Poultry Market News Branch of the Agricultural Marketing Service assisted in compiling data on poultry slaughter. H. S. Kahle, formerly with AMS, conducted the survey of poultry plants to obtain information on the form in which poultry was processed. The analysis of variance was conducted under the direction of E. E. Houseman.

April 1960

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## HIGHLIGHTS

Poultry slaughter in commercial plants increased from 4.3 billion pounds in 1955 to 6.6 billion pounds in 1958, and during the latter year accounted for 84 percent of chickens and turkeys sold off farms.

Large-scale poultry slaughtering plants processed more than half of the output of all commercial plants during 1957 although they accounted for only one plant out of five. The large plants were most numerous in the South Atlantic and East South Central regions--the leading areas in commercial broiler production. Small plants processed 8 percent of the output but constituted more than 30 percent of the plants. They were most numerous in the North Central and Middle Atlantic regions--leading areas in egg production.

From 1955 to 1957 the trend toward processing of poultry in the ready-to-cook form continued. About three-fourths of the ready-to-cook poultry was marketed as fresh-dressed ice-chilled packs. Commercial broilers and mature chickens were marketed mainly as fresh-chilled packs while turkeys, ducks, and geese were mostly frozen. While 90 percent of the poultry was prepared as whole birds, 6 percent was prepared as parts such as legs, breasts, wings, backs, and necks, and 4 percent was cut up to produce quarters, halves, and other portions.

# COMMERCIAL POULTRY SLAUGHTER PLANTS IN THE UNITED STATES

Number, Size, Location, and Output

by

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## INTRODUCTION

During the past 25 years fundamental improvements have been achieved in production, processing, and marketing of poultry meat. These improvements have resulted in greater efficiency at virtually all levels of production and marketing, permitting lower marketing margins and lower prices to consumers.

At the production level, significant advances in efficiency have been made as a result of improvements in breeding, feeding, disease control, and production management. At the processing level, improvements have been made in equipment so that many of the operations can be performed mechanically or automatically. Inplant advances have been made in materials handling, work simplification, and quality control. These factors, along with others before and after processing, have permitted poultry slaughterers to concentrate the volume handled into large plants permitting cost reductions through economies of scale. In the transportation of straight truckload lots from processing plants to chainstore warehouses, the marketing chain of handlers has been shortened both in terms of the number of times the product is handled and in the time required for the product to go through the marketing system. Changes in the form of the product marketed--from live birds, to New York dressed birds, to ready-to-cook birds--has in effect concentrated the product transported from producers to consumers. The resulting economies in transportation costs have been reflected in the lower marketing margins for poultry meat.

The advances in production efficiency have been a major factor in increasing flock size and in concentrating production of commercial broilers in relatively small compact geographical areas of high output. The advances in processing and marketing efficiency have been major factors affecting the number and size of poultry processing plants. The combination of these factors has affected changes in the location of poultry processing plants.

As a result of these trends, considerable interest has developed in information on the number, size, and location of poultry slaughter plants. Similarly, interest has been evident in the various forms into which the products are processed by these plants. Information concerning these subjects has been obtained nationally through the development of the Commercial Poultry Slaughter Report, and through special surveys of the industry.



Development of the Commercial Poultry Slaughter Report was the first phase of a research project designed to provide producers, processors, handlers, and others with improved current information on the movement of poultry and eggs from farms through assembling and processing plants at the earliest practical stage of marketing. The new national weekly report replaced the old report on receipts of live poultry at Central Western primary markets. Under the second phase of the research project a new weekly national Commercial Egg Movement Report has been developed.

This report summarizes many of the facts learned during the past several years concerning the number, size, location, and output of commercial poultry slaughter plants. The summaries provide benchmark information for the period shortly before the beginning of compulsory inspection of processed poultry moving in interstate commerce which became effective January 1, 1959.

### NUMBER AND SIZE OF PLANTS

The number and size of poultry slaughter plants in the United States has changed sharply in recent years as a result of changes in location and type of poultry raised for meat, the shift in poultry slaughtering from small city plants to large country plants, and many other factors. Compulsory Federal inspection probably will induce further changes in the structure of the industry.

A national survey of poultry slaughter plants, conducted as a part of the research leading to the development of the Commercial Poultry Slaughter Report, identified 691 commercial poultry slaughter plants and at least 1,539 small-volume plants as of July 1, 1956. <sup>1/</sup> By January 1, 1958, the number of commercial plants had dropped to 594 (table 1).

When the 594 plants were classified into 3 groups according to volume of slaughter, 34 percent fell in the small size group, but they accounted for only 8 percent of the output. The large plants slaughtering 300,000 pounds or more per week made up only 21 percent of the plants, but they accounted for 51 percent of the output. The average volume of slaughter was 209,000 pounds per week for all commercial plants.

Although information obtained from commercial poultry slaughter plants covers a relatively few years, it shows that the number of plants has been sharply declining and the average volume of slaughter per plant has been increasing. The number of plants has been declining in old egg-production areas such as the North Central and South Central regions while new plants with large slaughtering capacities have been built in commercial poultry-meat production areas such as the broiler-producing South Atlantic and turkey-producing Pacific regions. Figure 1 shows the geographic regions.

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<sup>1/</sup> A commercial poultry slaughter plant is defined as a plant which slaughters at least 30,000 pounds of poultry, live weight, per week on the average while in operation. Faber, F. L. Development of the Commercial Poultry Slaughter Report. U. S. Agr. Mktg. Serv., AMS-174, 4 pp. 1957.

Table 1.--Number of commercial poultry slaughter plants and weekly slaughter, by size of plant and by regions 1/

Region	Plants as of Jan. 1, 1958				Weekly slaughter in 1957 2/			
	Small	Medium	Large	Total	Small plants	Medium plants	Large plants	All plants
	No.	No.	No.	No.	1,000 lb.	1,000 lb.	1,000 lb.	1,000 lb.
New England .....	8	10	8	26	472	2,099	4,512	7,083
Middle Atlantic ...	36	18	6	60	1,119	3,491	2,741	7,351
East North Central:	43	32	5	80	2,402	5,188	1,963	9,553
West North Central:	37	52	15	104	2,171	9,030	6,219	17,420
South Atlantic ...	22	49	51	122	1,217	10,615	28,993	40,825
East South Central:	13	21	18	52	765	4,346	8,720	13,831
West South Central:	19	49	10	78	1,024	9,083	4,425	14,532
Western .....	24	34	14	72	1,249	6,298	6,046	13,593
United States ..	202	265	127	594	10,419	50,150	63,619	124,188
Percentage, by size:	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.
New England .....	30.8	38.4	30.8	100.0	6.7	29.6	63.7	100.0
Middle Atlantic ...	60.0	30.0	10.0	100.0	15.2	47.5	37.3	100.0
East North Central:	53.8	40.0	6.2	100.0	25.2	54.3	20.5	100.0
West North Central:	35.6	50.0	14.4	100.0	12.5	51.8	35.7	100.0
South Atlantic ...	18.0	40.2	41.8	100.0	3.0	26.0	71.0	100.0
East South Central:	25.0	40.4	34.6	100.0	5.5	31.4	63.1	100.0
West South Central:	24.4	62.8	12.8	100.0	7.0	62.5	30.5	100.0
Western .....	33.3	47.3	19.4	100.0	9.2	46.3	44.5	100.0
United States ..	34.0	44.6	21.4	100.0	8.4	40.4	51.2	100.0
Percentage of U. S. total	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.
New England .....	4.0	3.8	6.3	4.4	4.5	4.2	7.1	5.7
Middle Atlantic ...	17.8	6.8	4.7	10.1	10.7	7.0	4.3	5.9
East North Central:	21.3	12.1	3.9	13.4	23.1	10.3	3.1	7.7
West North Central:	18.3	19.6	11.8	17.5	20.9	18.0	9.8	14.0
South Atlantic ...	10.9	18.5	40.2	20.5	11.7	21.2	45.5	32.9
East South Central:	6.4	7.9	14.2	8.8	7.3	8.7	13.7	11.1
West South Central:	9.4	18.5	7.9	13.1	9.8	18.1	7.0	11.7
Western .....	11.9	12.8	11.0	12.2	12.0	12.5	9.5	11.0
United States ..	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

1/ Classified by average weekly volume of slaughter while in operation (thous. lb.): small, 30-99; medium, 100-299; large, over 300.

2/ Average weekly slaughter (live weight) per plant while in operation.



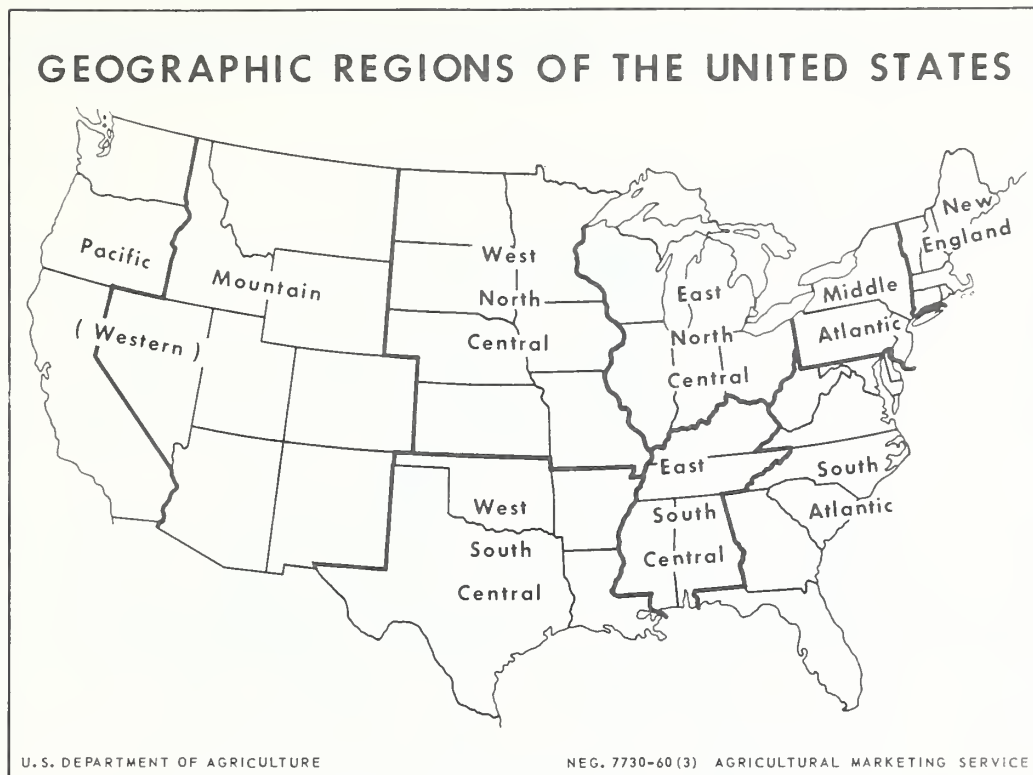


Figure 1

A recent study gave further proof of the importance of large poultry slaughtering plants in the movement of poultry from farms into trade channels. <sup>2/</sup> It showed that out of 350 potential assemblers of live poultry in New England in 1957, 35 poultry processing plants handled 423 million pounds of poultry or 89 percent of the 473 million pounds handled by all types of assembling firms.

## LOCATION OF PLANTS

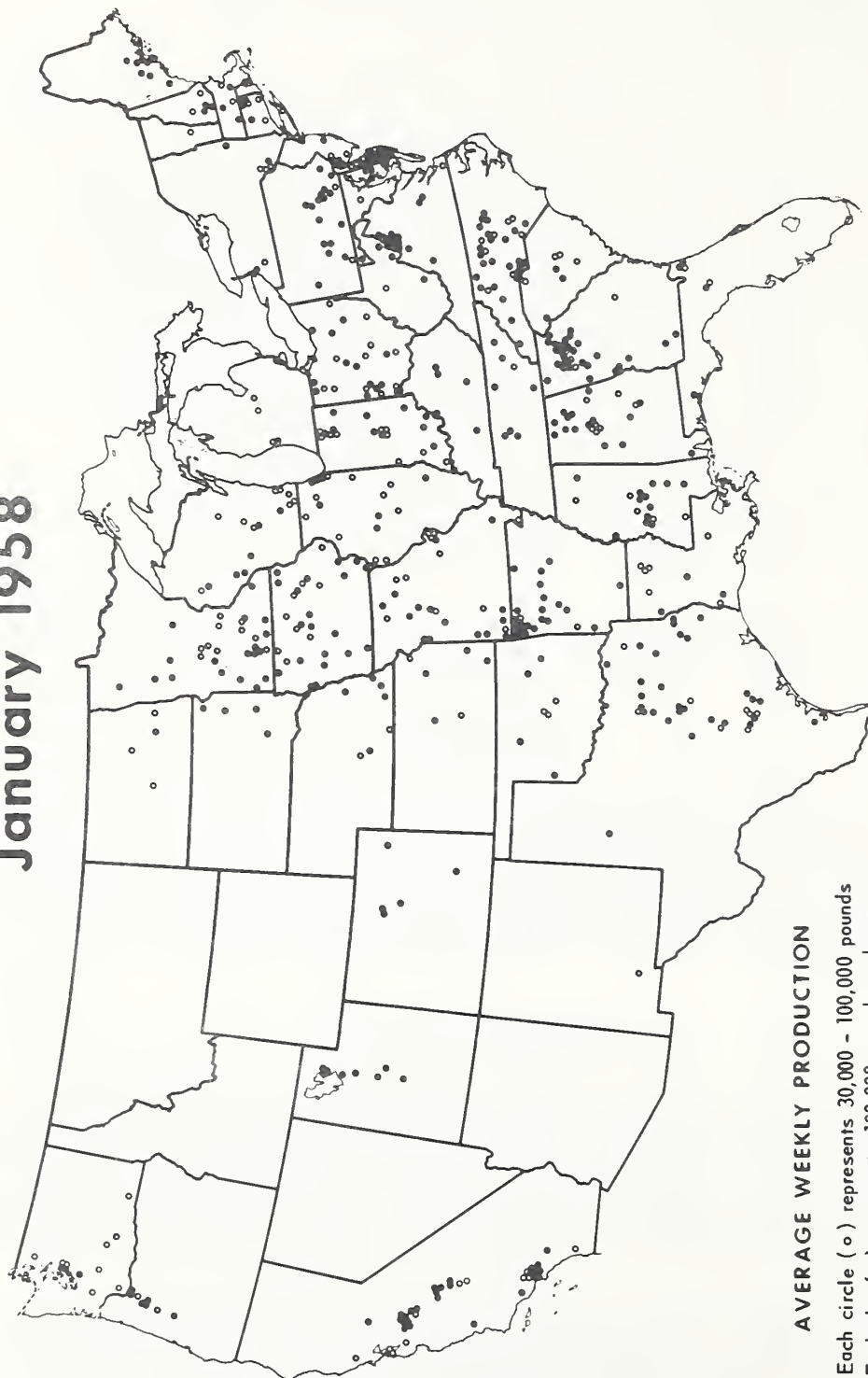
Pronounced changes have occurred in recent years in the location of poultry slaughtering plants as a result of shifts in the location of poultry meat production, the concentration of production in relatively compact areas of high output, and the migration of the slaughtering operations from city to country plants in an effort to reduce costs. The locations of commercial poultry slaughtering plants as of January 1, 1958, are shown in figure 2.

The South Atlantic region ranked first in number of commercial plants and first in average weekly output during 1957. The largest proportions of small plants were in the North Central and Middle Atlantic regions. In these regions egg production is of more importance than the production of poultry meat.

<sup>2/</sup> Roger, G. B., Jones, H. B., and Bardwell, E. T. Assembling New England Poultry. U. S. Agr. Mktg. Serv. Marketing and Transportation Situation, April 1959.

# COMMERCIAL POULTRY SLAUGHTERING PLANTS

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Figure 2

Large plants were most numerous in the South Atlantic and East South Central regions, where the newest and largest commercial broiler areas are located (table 1).

### Shifts in Production

Fundamental changes have occurred in the geographic location of poultry meat production since the early thirties, resulting in pronounced effects on the location of poultry slaughtering plants. In the 5-year period 1930-34, the East and West North Central regions accounted for 56 percent of all farm chickens and turkeys sold off farms. Poultry meat from farm chickens was mainly old hens which had outlived their usefulness as egg producers and male birds which were raised along with the replacements for laying flocks.

By 1954-58 the two North Central regions accounted for only 24 percent of sales off farms of all chickens and turkeys. Although production of poultry meat had increased in all regions in terms of absolute numbers, the North Central region had declined in relative importance because of the spectacular growth of the commercial broiler industry, which occurred mainly in the South Atlantic, South Central, and North Atlantic regions (table 2).

### Shifts in Location of Poultry Slaughter Plants

Historically, many poultry slaughtering plants were located in large cities. However, in recent years there has been a "migration" of the slaughtering operation from relatively small city plants to large modern plants located in concentrated country production areas.

One indication of this is found in the receipts of live and dressed poultry at four major cities (New York, Boston, Chicago, and Philadelphia). From 1944 to 1957 receipts of live poultry in these markets dropped 52 percent--from 234 million to 112 million pounds. In the same period, receipts of dressed poultry rose 63 percent, from 437 million to 711 million pounds. In 1958 these trends continued, with receipts of live poultry dropping to 106 million pounds and receipts of dressed poultry increasing to 743 million pounds.

The best indication of the shift in plant location is from an analysis of available data on commercial poultry slaughter plants. As of January 1, 1958, there were 83 commercial plants in the 25 largest metropolitan areas, compared with 134 as of September 1, 1955. The reduction in the number of plants was also accompanied by a decline in the proportion of slaughter accounted for by the city plants. During the span of a little more than 2 years the volume slaughtered in city plants declined from 9 to 8 percent of the slaughter in all commercial plants (table 3).

Another indicator of these trends is the increase in the number of large plants outside of the 25 largest urbanized areas. As of September 1, 1955, there were 72 such plants, or 11 percent of the total number of plants. By January 1, 1958, their number had increased to 119 plants, or 20 percent of the total, and they accounted for 45 percent of the slaughter.

Table 2.--Chickens and turkeys sold off farms, by regions, averages 1930-34 and 1954-58

Period and region	Commercial broilers 1/	Farm chickens	Turkeys	Total
	1, 000 lb.	Pct.	1, 000 lb.	Pct.
1930-34 average				
North Atlantic .....	---	13.2	12, 131	4.7
East North Central ..	---	24.2	19, 470	7.5
West North Central ..	---	34.9	68, 023	26.4
South Atlantic .....	---	7.7	23, 850	9.2
South Central .....	---	12.6	72, 839	28.3
Western .....	---	7.4	61, 720	23.9
United States ...	---	100.0	258, 033	100.0
Percentage, by classes	---	86.7		13.3
1954-58 average				
North Atlantic .....	562, 123	13.4	76, 139	6.2
East North Central ..	284, 206	6.8	166, 052	13.5
West North Central ..	128, 971	3.1	342, 086	27.9
South Atlantic .....	1, 821, 297	43.4	165, 122	13.5
South Central .....	1, 162, 148	27.7	130, 933	10.7
Western .....	235, 121	5.6	346, 232	28.2
United States ...	4, 193, 866	100.0	1, 226, 564	100.0
Percentage, by classes		63.4		18.5

1/ Included with farm chickens, 1930-1934.

Source: Annual reports on "Farm Production, Disposition, Cash Receipts and Gross Income - Chickens and Eggs" and "Farm Production, Disposition, Cash Receipts and Gross Income - Turkeys," Crop Reporting Board, U. S. Agr. Mktg. Serv.



Table 3.--Slaughter in commercial poultry slaughter plants in metropolitan and other areas, 1955 and 1957

Location	1955				1957			
	Plants <u>1/</u>		Weekly slaughter <u>2/</u>		Plants <u>3/</u>		Weekly slaughter <u>2/</u>	
	No.	Pct.	1,000 lb.	Pct.	No.	Pct.	1,000 lb.	Pct.
Plants in the 25 largest urbanized areas .....	134	20	7,989	9	83	14	9,930	8
Plants outside of the 25 largest urbanized areas ..	524	80	81,912	91	511	86	114,258	92
Total .....	658	100	89,901	100	594	100	124,188	100
Plants slaughtering 300,000: pounds or more per week : outside of the 25 largest: urbanized areas .....	72	11	<u>4/</u>	<u>4/</u>	119	20	55,417	45

1/ Number of commercial plants as of September 1, 1955.

2/ Average weekly slaughter live weight while in operation during the year.

3/ Number of commercial plants as of January 1, 1958.

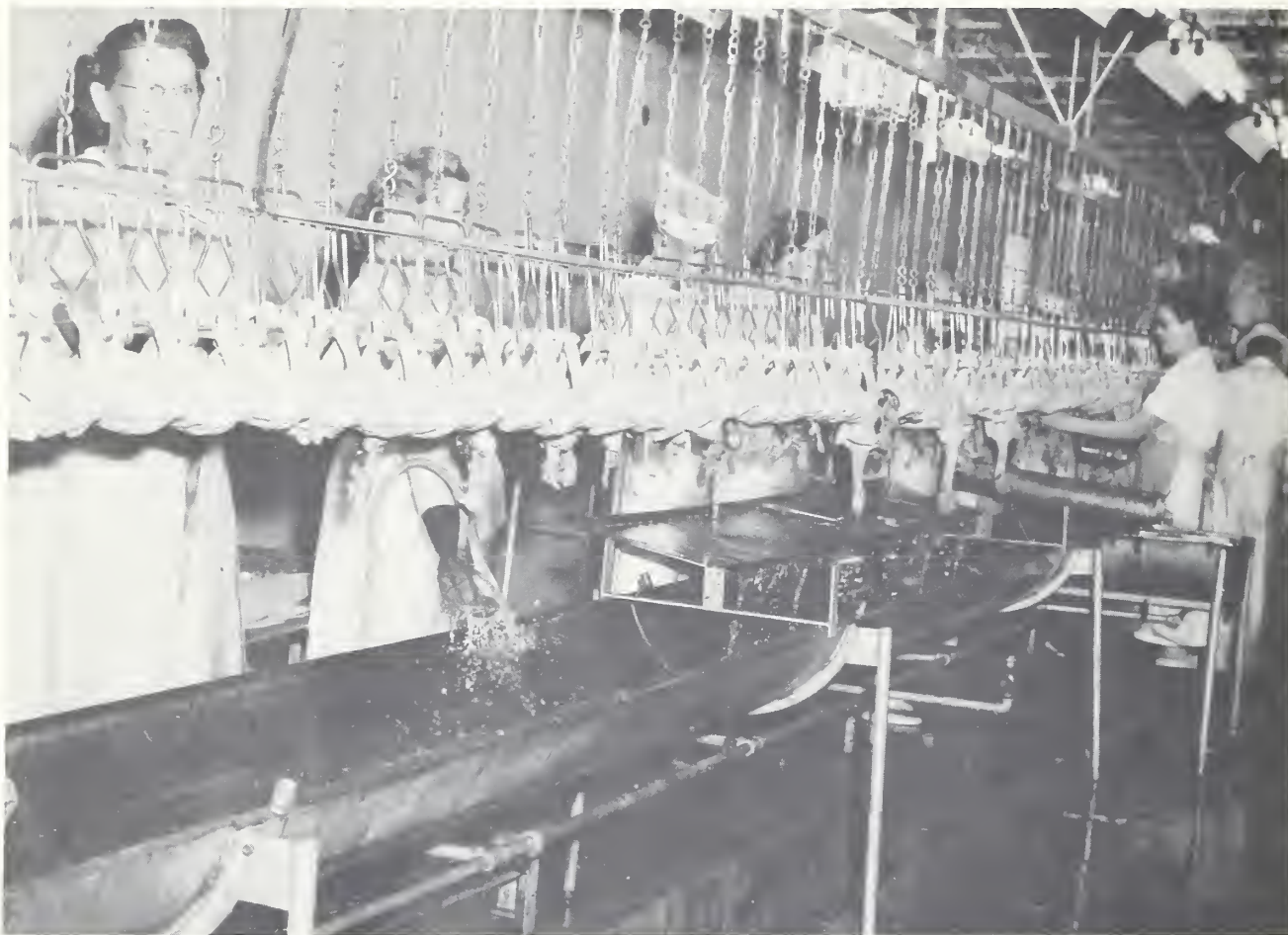
4/ Not computed.

As stated in an earlier article, 3/ "a number of important economic and technical conditions and developments appear responsible for this trend: (1) Differentials in operating costs between urban and rural areas seem to favor the latter. Among the factors underlying the lower costs of plant operation in major poultry producing areas are: (a) Lower costs of assembling live birds which more than offset higher costs of distributing ready-to-cook birds, (b) lower wage rates, and (c) lower taxes and rents. (2) Great improvements in refrigeration and transportation have been made which permit shipment of fresh-killed poultry greater distances at lower cost. (3) The large integrated food merchandising companies have found it more economical and convenient to buy directly from large-scale slaughterers located in major producing areas than to deal with small operators. And (4) several small but highly specialized poultry producing areas have developed. These have required new marketing methods and institutions." The main processing line in a modern commercial poultry slaughtering plant is shown in figure 3.

#### Seasonal Plants Declining in Importance

Historically, the movement of poultry from farms to slaughtering plants occurred mainly in the fall months. Many of the plants were multipurpose because they were also used for other operations such as handling eggs and cream

3/ U. S. Agricultural Marketing Service. Poultry Slaughtering Moving to Producing Areas. Marketing and Transportation Situation, Oct. 1955, p. 36.



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Figure 3.--The main processing line in a modern commercial poultry slaughter plant

during the spring and summer months. Year-round plants specializing in poultry slaughtering are of fairly recent origin and are located predominantly in commercial broiler areas where supplies of live birds are available in all seasons.

Seasonal plants may be defined as those that definitely close down for several months during the year. The length of time they are closed varies. Usually they operate when marketings of poultry are seasonally large. They may specialize in the slaughter of a particular kind of poultry such as turkeys or ducks. However, in the general farm flock areas, all kinds of poultry are slaughtered in seasonal plants.

Some plants close down for short periods, but still they are not considered to be seasonal plants. Examples are plants that close down for repairs or replacement of equipment, plants that close down so that all employees can take a vacation, and plants that operate intermittently. Examples of the last kind are some turkey slaughtering plants that stand ready to operate and do so when they have a supply of live birds to process. In the interim they may stand idle 1, 2, 3, or more weeks at a time while waiting for a supply of birds.



Weekly reports received from commercial poultry slaughtering plants during 1954 showed 28 percent of the plants to be seasonal and they slaughtered about 10 percent of the total volume of poultry slaughtered in all commercial plants. Weekly reports received during 1957 showed 15 percent of the plants were seasonal and they slaughtered 6 percent of the total volume of poultry slaughtered in all commercial plants.

#### OUTPUT OF COMMERCIAL POULTRY SLAUGHTER PLANTS

Estimated slaughter of poultry in commercial plants increased from 4.3 billion pounds in 1955 to 6.6 billion pounds in 1958. The distribution of volume of slaughter by kind of poultry was fairly uniform from year to year except that all young chickens accounted for an increasing proportion and hens and cocks for a decreasing proportion of total slaughter during the 4-year period (table 4).

Table 4.--Estimated annual slaughter of poultry, by kind, in commercial plants, 1955-58

Kind of poultry	Poultry slaughter-live weight				Distribution of totals			
	1955	1956	1957	1958	1955	1956	1957	1958
	Mil. lb.	Mil. lb.	Mil. lb.	Mil. lb.	Pct.	Pct.	Pct.	Pct.
Chickens:								
All young .....	2,973	3,828	4,244	4,960	70	72	74	75
Hens and cocks ..	527	528	508	577	12	10	9	9
Subtotal .....	3,500	4,356	4,752	5,537	82	82	83	84
Turkeys:								
Fryer-roaster ..	97	117	113	112	2	2	2	2
Heavy breed hens:	225	282	281	307	5	5	5	5
Heavy breed toms:	382	487	490	533	9	9	9	8
Light breed hens: and toms .....	39	45	21	25	1	1	1/	1/
Subtotal .....	743	931	905	977	17	17	16	15
Ducks .....	41	40	37	48	1	1	1	1
Geese .....	3	2	2	3	1/	1/	1/	1/
All poultry ..	4,287	5,329	5,696	6,565	100.0	100.0	100.0	100.0

1/ Less than one-half of one percent.

Weekly issues of the Commercial Poultry Slaughter Report provide information on the movement of poultry from farms into trade channels at the earliest stage of marketing. <sup>4/</sup> Reports obtained through the voluntary cooperation of individual plants are summarized in preparing the national estimates each week. By the end of 1957, reports were being obtained from about 90 percent of all of the 594 known plants that qualified as commercial plants (see footnote 1).

The estimates of poultry slaughtered in commercial plants during 1958 accounted for 84 percent of the live weight of chickens and turkeys sold off farms as reported by the Agricultural Estimates Division, AMS. For the major kinds of poultry the percentages were: All young chickens (predominately commercial broilers) 86 percent, hens and cocks 80 percent, and turkeys 74 percent. The remainder is slaughtered on farms, in small slaughtering plants, and by consumers. The poultry not slaughtered in commercial plants is consumed mostly near the place of slaughter while the poultry slaughtered in commercial plants moves to distant as well as local markets.

### Seasonal Variation in Poultry Slaughter

Seasonal variation in the volume of poultry slaughtered is different for the various kinds of poultry, but is apparent also in total for all poultry. Plants in year-round operation increase their output when marketings of poultry become large, and at the same time seasonal plants begin operation.

For all poultry, the low point occurs in February and the peak in October. This seasonal pattern is influenced mainly by the seasonal variation in the slaughter of turkeys and of hens and cocks. Turkey slaughter is highly seasonal, with about 70 to 75 percent occurring during the last 4 months of the year (table 5). The slaughter of hens and cocks follows a similar pattern but the peak occurring in November and the lows from February to April are not as pronounced as are the peaks and lows for turkeys. The slaughter of geese also follows a similar pattern, showing a very pronounced peak in the fall months. Seasonal variation in duck slaughter has an entirely different pattern from that of any other kind of poultry. Most of the ducks are slaughtered from April through September with the peaks occurring from May to July. Young chickens, which are predominantly commercial broilers, show very little seasonal variation in their slaughter pattern. Only a moderate rise is noticeable during the summer and early fall months. It appears to be normal for slaughter of young chickens to decline during November and December when slaughter of other kinds of poultry is very heavy and offers considerable competition to young chickens.

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<sup>4/</sup> Published in the Weekly Egg and Poultry Review, Dairy and Poultry Market News Branch, 139 Centre Street, New York 13, N. Y. Annual summaries of the weekly slaughter estimates are published in "Dairy and Poultry Market Statistics," Dairy and Poultry Market News Branch, U. S. Dept. of Agri. Mktg. Serv. Washington, D. C.

Table 5.--Seasonal variation of poultry slaughter in commercial plants, by kind of poultry, 1955-58

Month	All young chickens				Hens and cocks				All turkeys			
	1955	1956	1957	1958	1955	1956	1957	1958	1955	1956	1957	1958
	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent
January ..	6.7	7.1	7.9	7.1	6.2	4.7	7.4	6.3	2.5	1.8	3.5	3.4
February ..	6.2	6.7	6.6	6.2	4.1	4.9	6.3	5.0	1.0	.8	1.5	.6
March ....	6.7	7.1	7.4	6.8	4.3	4.8	6.0	4.5	1.3	1.1	1.7	.7
April ....	7.3	7.5	8.3	8.2	4.8	4.6	6.9	4.4	1.8	1.1	1.8	.9
May .....	9.2	8.9	9.1	8.6	6.3	6.7	7.4	5.3	3.3	2.7	3.4	2.3
June .....	9.5	9.0	8.2	8.5	6.9	7.8	6.9	6.6	3.3	2.8	4.2	3.9
July .....	8.7	8.7	9.1	9.8	9.3	8.2	7.7	7.7	3.2	4.1	5.9	5.3
August ....	9.8	10.1	9.3	9.6	11.2	11.9	9.1	10.8	7.1	8.9	8.4	8.3
September ..	9.6	8.8	8.9	9.7	11.8	12.3	10.6	12.7	12.4	13.3	13.3	13.7
October ..	9.7	10.1	9.6	10.2	14.5	14.3	14.6	15.7	21.0	22.9	20.5	21.8
November ..	8.4	8.1	7.6	7.1	12.6	11.2	9.8	10.9	26.2	25.8	21.7	22.0
December ..	8.2	7.9	8.0	8.2	8.0	8.6	7.3	10.1	16.9	14.7	14.1	17.1
Total ..	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
	Ducks				Geese				All poultry			
January ..	1.2	1.6	2.6	2.4	0.1	0.1	---	0.1	5.8	5.9	7.1	6.5
February ..	1.1	1.5	2.5	2.6	1/	1/	---	1/	5.0	5.4	5.8	5.3
March ....	1.7	2.4	3.5	4.5	1/	1/	0.7	1/	5.4	5.8	6.4	5.7
April ....	11.6	9.1	9.8	9.5	1/	1/	1.1	1/	6.1	6.1	7.2	6.8
May .....	15.2	15.7	14.3	10.6	1/	1/	---	1/	7.9	7.6	8.1	7.4
June .....	17.0	15.0	11.9	12.2	5.7	.2	---	1/	8.2	7.8	7.4	7.7
July .....	15.6	14.9	15.0	14.1	10.3	.5	---	1/	7.9	7.9	8.5	9.0
August ....	15.1	13.8	12.5	12.1	8.6	5.5	---	1/	9.5	10.2	9.1	9.5
September ..	10.9	11.5	10.8	11.5	13.2	---	---	4.7	10.4	9.9	9.7	10.5
October ..	5.9	8.1	8.7	9.1	16.9	2.6	9.0	7.3	12.2	12.7	11.7	12.3
November ..	2.8	3.8	5.0	6.1	33.0	66.0	62.4	60.4	12.0	11.5	10.1	9.6
December ..	1.9	2.6	3.4	5.3	12.2	25.1	26.8	27.5	9.6	9.2	8.9	9.7
Total ..	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

1/ Less than 0.05 percent.



## FORM OF PRODUCT PRODUCED

Of the total poultry slaughtered in 1957 in commercial plants, 91 percent was processed into ready-to-cook form, 7 percent was New York dressed, and 2 percent was processed for use in prepared foods. The trend away from New York dressed and toward ready-to-cook poultry continued from 1955 to 1957. An earlier study showed 88 percent of the commercial poultry slaughter in 1955 was prepared as ready-to-cook and 12 percent as New York dressed. <sup>5/</sup> With the beginning of compulsory inspection of processed poultry on January 1, 1959, the proportion of the slaughter prepared in New York dressed form undoubtedly has declined even more because it cannot be shipped across State lines. Probably the only poultry prepared New York dressed at present is relatively small volumes in plants that are not under inspection and in plants where only New York dressing is done and the birds are then transferred to other plants where they undergo further processing.

A special survey of commercial poultry slaughter plants obtained information on the various forms into which the poultry was processed during 1957. Information was requested on the quantities prepared as ready-to-cook, used in prepared foods, and New York dressed. The ready-to-cook was subdivided into whole birds, cut-up, and parts, and for each of these groups information was obtained on the proportions marketed fresh or frozen. Data were obtained on these breakdowns for broilers and other young chickens, mature chickens, turkeys, and ducks and geese. The purpose of the survey was to provide a benchmark for a period closer to the beginning of compulsory inspection than the 1955 survey. The estimates provided in table 6 are based on returns received from plants that processed 91 percent of the poultry slaughtered in commercial plants during 1957.

The 100 million pounds of poultry slaughtered for use in prepared foods as reported by the poultry slaughterers is less than half of the poultry used in canning and other processed foods in 1957 as reported by canners and other processors to the Crop Reporting Board. <sup>6/</sup> At least two reasons may explain the difference. Some poultry slaughterers may not have known that the poultry would eventually be used in canned and other processed foods, and some may have reported only the poultry going into prepared foods, but not that portion going into canning.

Poultry was New York dressed in significant quantities only in the New England and South Atlantic regions. Some of this poultry undoubtedly went to canners while the remainder moved into retail channels. Regionally, the poultry slaughtered for prepared foods was most significant in the West North Central region, and the South Atlantic region was second in importance. Since the South Atlantic region accounted for 38 percent of the commercial poultry slaughter in 1957, it may be expected that some of the poultry would move to canners or manufacturers of prepared foods. At times certain of the kinds or sizes of poultry are difficult to move through retail outlets, and at times overall surpluses develop. In either one or the other of these situations canners may be the best outlet for some of the poultry.

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<sup>5/</sup> Kahle, H. S. Availability of Fresh or Frozen Ready-to-cook Poultry. U. S. Agr. Mktg. Serv. AMS-158, 10 pp., illus. Jan. 1957.

<sup>6/</sup> U. S. Agricultural Marketing Service, Crop Reporting Board. Poultry--Canned and Processed Foods, Eviscerated, Federal Inspection, Feb. 1958.

Table 6.--Poultry slaughtered in commercial plants by stage of processing and by kind of poultry, by regions, 1957

Region and kind of poultry	Prepared as ready-to-cook										Total
	Whole		Cut-up		Parts		New York		Prepared		
	Fresh	Frozen	Fresh	Frozen	Fresh	Frozen	dressed	foods			
	Mil. lb. live wt.	Mil. lb. live wt.	Mil. lb. live wt.	Mil. lb. live wt.	Mil. lb. live wt.	Mil. lb. live wt.	Mil. lb. live wt.	Mil. lb. live wt.	Mil. lb. live wt.	Mil. lb. live wt.	
New England:											
Young chickens	168.2	3.5	0.4	0.1	36.7	---	127.8	0.7	337.4		
Mature chickens	24.1	.1	---	.1	---	---	28.2	---	52.5		
Turkeys	1.3	---	---	---	---	---	.1	---	1.4		
Ducks and geese	---	1.1	---	---	---	---	---	---	1.1		
Subtotal	193.6	4.7	.4	.2	36.7	---	156.1	.7	392.4		
Middle Atlantic:											
Young chickens	141.4	7.9	15.2	2.9	24.7	13.9	8.6	.5	215.1		
Mature chickens	17.7	.2	.1	---	---	---	22.3	.4	40.7		
Turkeys	9.9	2.3	.1	---	---	---	.6	1/	12.9		
Ducks and geese	.8	9.0	---	---	---	---	18.0	---	27.8		
Subtotal	169.8	19.4	15.4	2.9	24.7	13.9	49.5	.9	296.5		
East North Central:											
Young chickens	167.7	9.7	16.5	2.0	8.5	.7	.2	1/	205.3		
Mature chickens	41.2	28.2	.2	.2	---	---	22.4	3.8	96.0		
Turkeys	7.8	84.8	---	1.0	---	---	.5	1/	94.1		
Ducks and geese	3.1	3.8	---	---	---	---	.5	---	7.4		
Subtotal	219.8	126.5	16.7	3.2	8.5	.7	23.6	3.8	402.8		
West North Central:											
Young chickens	83.9	19.3	1.6	.9	1.2	.8	.1	5.1	112.9		
Mature chickens	27.0	84.5	---	4.1	.3	.1	4.0	45.5	165.5		
Turkeys	17.9	275.6	---	---	---	5.0	1.0	2.7	302.2		
Ducks and geese	1/	1.3	---	---	---	---	1/	---	1.3		
Subtotal	128.8	380.7	1.6	5.0	1.5	5.9	5.1	53.3	581.9		
South Atlantic:											
Young chickens	1,555.8	73.8	22.9	34.6	59.5	81.8	154.8	22.3	2,005.5		
Mature chickens	49.6	11.2	1/	---	1/	---	.4	5.2	66.4		
Turkeys	16.2	67.1	---	---	---	---	8.4	---	91.7		
Ducks and geese	---	---	---	---	---	---	---	---	---		
Subtotal	1,621.6	152.1	22.9	34.6	59.5	81.8	163.6	27.5	2,163.6		

(Continued)

(Continued)

Table 6.--Poultry slaughtered in commercial plants by stage of processing and by kind of poultry, by regions, 1957--  
Continued

Region and kind of poultry	Prepared as ready-to-cook										Total
	Whole		Cut-up		Parts		New York		Prepared: foods		
	Fresh	Frozen	Fresh	Frozen	Fresh	Frozen	dressed:				
	Mil. lb. live wt.	Mil. lb. live wt.	Mil. lb. live wt.	Mil. lb. live wt.	Mil. lb. live wt.	Mil. lb. live wt.	Mil. lb. live wt.	Mil. lb. live wt.	Mil. lb. live wt.	Mil. lb. live wt.	
East South Central:											
Young chickens .....	582.0	12.9	5.1	0.3	7.3	17.1	---	---	---	624.7	
Mature chickens .....	16.8	1.7	---	---	---	---	---	---	---	18.5	
Turkeys .....	.7	9.2	---	---	---	---	---	---	---	9.9	
Ducks and geese .....	---	---	---	---	---	---	---	---	---	---	
Subtotal .....	599.5	23.8	5.1	.3	7.3	17.1	---	---	---	653.1	
West South Central:											
Young chickens .....	446.7	35.0	10.7	37.5	13.6	42.6	---	---	13.9	600.0	
Mature chickens .....	18.7	6.8	1/	1/	1/	---	---	---	---	25.5	
Turkeys .....	3.6	79.8	---	---	.2	.3	---	---	---	83.9	
Ducks and geese .....	1/	1/	---	---	---	---	---	---	---	1/	
Subtotal .....	469.0	121.6	10.7	37.5	13.8	42.9	---	---	13.9	709.4	
Mountain:											
Young chickens .....	27.7	.6	.9	.1	---	---	---	---	---	29.3	
Mature chickens .....	1.2	1.8	.5	1/	---	---	---	---	---	3.5	
Turkeys .....	12.5	57.8	---	---	---	---	---	---	---	70.3	
Ducks and geese .....	---	1.0	---	---	---	---	---	---	---	1.0	
Subtotal .....	41.4	61.2	1.4	.1	---	---	---	---	---	104.1	
Pacific:											
Young chickens .....	70.8	1.8	36.9	1.9	1.1	.6	.2	---	---	113.3	
Mature chickens .....	17.0	10.5	6.3	.3	1.9	.5	3.0	---	---	39.5	
Turkeys .....	60.2	178.0	---	.8	---	---	---	---	---	239.0	
Ducks and geese .....	1/	.6	---	---	---	---	---	---	---	.6	
Subtotal .....	148.0	190.9	43.2	3.0	3.0	1.1	3.2	---	---	392.4	
United States:											
Young chickens .....	3,244.2	164.5	110.2	80.3	152.6	157.5	291.7	42.5	4,243.5		
Mature chickens .....	213.3	145.0	7.1	4.7	2.2	.6	80.3	54.9	508.1		
Turkeys .....	130.1	754.6	.1	1.8	.2	5.3	10.6	2.7	905.4		
Ducks and geese .....	3.9	16.8	---	---	---	---	18.5	---	39.2		
Total .....	3,591.5	1,080.9	117.4	86.8	155.0	163.4	401.1	100.1	5,696.2		
1/ Less than 50,000 pounds.											



In 1957 more than 5 billion pounds of poultry was slaughtered and prepared in ready-to-cook form. Of this total, 90 percent was prepared as whole birds, 6 percent was prepared as parts of birds, such as legs, breasts, wings, backs, and necks, and 4 percent was cut up to produce quarters, halves, or other portions. Virtually all of the ducks, geese, and turkeys were processed as whole birds. For young and mature chickens the largest proportion was processed as whole birds. However, 8 percent of the young chickens and 1 percent of the mature chickens were processed as parts, and 5 percent of the young chickens and 3 percent of the mature chickens were processed as cut-up (table 7). Packaging of cut-up poultry parts in a commercial poultry slaughter plant is shown in figure 4.

Approximately one-fourth of the ready-to-cook poultry was frozen and three-fourths was fresh packed (mostly ice chilled). Marketed as fresh packs were 90 percent of the young chickens, 60 percent of the mature chickens, 14 percent of the turkeys, and 19 percent of the ducks and geese.



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Figure 4.--Packaging cut-up poultry parts in a commercial poultry slaughter plant

Table 7.--Ready-to-cook poultry, by form of product and kind of poultry,  
commercial poultry slaughter plants, 1957

Form of product	Young chickens	Mature chickens	Turkeys	Ducks and geese	Total
	Mil. lb.	Mil. lb.	Mil. lb.	Mil. lb.	Mil. lb.
	live wt.	live wt.	live wt.	live wt.	live wt.
	Percent	Percent	Percent	Percent	Percent
Fresh:					
Whole .....	3,244.1	213.3	130.1	3.9	3,591.4
Cut-up .....	110.2	7.1	.1	---	117.4
Parts .....	152.5	2.2	.2	---	154.9
Subtotal ...	3,506.8	222.6	130.4	3.9	3,863.7
Frozen:					
Whole .....	164.5	145.0	754.6	16.7	1,080.9
Cut-up .....	80.3	4.8	1.8	---	86.9
Parts .....	157.6	.6	5.2	---	163.4
Subtotal ...	402.4	150.4	761.6	16.7	1,331.2
Fresh & frozen:					
Whole .....	3,408.6	358.3	884.7	20.6	4,672.3
Cut-up .....	190.5	11.9	1.9	---	204.3
Parts .....	310.1	2.8	5.4	---	318.3
Total .....	3,909.2	373.0	892.0	20.6	5,194.9

1/ Less than 0.05 percent.

## Trends in Freezing

In the 1955 survey considerable attention was devoted to the outlook for frozen poultry. The report (see footnote 5) stated, "It is expected that the trend toward ready-to-cook products will continue until practically all poultry is marketed in this form. During the last 10 years, progress in this direction has been rapid. During these years, there also has been a rapid growth in the freezing of poultry in ready-to-cook form. Further increases in the proportion of poultry frozen may come, but a continuation of past trends is not assured."

Because of the sharp increase in the trend toward preparing poultry in the ready-to-cook form, information on the quantities frozen obtained in the survey were only for the poultry slaughtered and prepared in the ready-to-cook form. A portion of the 7 percent that was New York dressed, and a portion of the 2 percent that was slaughtered for use in prepared foods probably was frozen. However, the adjustments in the trends due to these factors would be minor even if all the facts were known. Assuming that the proportion of all poultry that was frozen is the same as the proportion of ready-to-cook poultry that was frozen, certain trends can be described.

From 1955 to 1957 total slaughter of poultry in commercial plants increased from 4,287 to 5,696 million pounds live weight, an increase of 33 percent. During the same period the quantity slaughtered for freezing increased from 1,233 to 1,330 million pounds, an increase of 8 percent. Since total slaughter increased more than the amount frozen, the proportion frozen dropped from 29 percent in 1955 to 23 percent in 1957 (table 8).

Table 8.--Commercial poultry slaughter and portion slaughtered for freezing, by kind, 1955 and 1957

Kind of poultry	Total slaughter		Frozen		Frozen as percentage of total slaughter	
	1955	1957	1955	1957	1955	1957
	Mil. lb. live wt.	Mil. lb. live wt.	Mil. lb. live wt.	Mil. lb. live wt.	Percent	Percent
Young chickens ...	2,973	4,244	357	402	12	9
Mature chickens ..	527	508	237	150	45	30
Turkeys .....	743	905	609	762	86	84
Ducks and geese ..	44	39	29	16	66	41
All kinds ...	4,287	5,696	1,232	1,330	29	23

For the major kinds of poultry, divergent trends are evident from 1955 to 1957. For turkeys, a substantial increase occurred in the quantity frozen, but the proportion of the slaughter that was frozen dropped slightly from 86 to 84 percent. For young chickens a moderate increase occurred in the quantity frozen, but the proportion of the slaughter that was frozen dropped from 12 to 9 percent. For mature chickens, ducks, and geese there was a substantial decline in both the absolute quantities and the percentages of the slaughter that was frozen.



## APPENDIX

### Slaughter Estimates Compared with Other Poultry Series

The U. S. Department of Agriculture provides a number of periodic reports designed to assist persons who are interested in predicting trends in poultry meat production and marketing. For commercial broilers and turkeys a whole series of reports are available that give indications of the size of the expected crop, the size of the crop being produced, and finally the volume slaughtered and entering commercial trade channels.

The first indication of the expected numbers of broilers that may be available for slaughter in the future is given by the monthly report on Pullet Chicks for Broiler Hatchery Supply Flocks. That report gives estimates of the numbers of breeder hens that will produce the eggs from which commercial broiler chicks are hatched in the future. The monthly report on chickens tested (for Pullorum disease) gives estimates of the size of the current breeder flock available for the production of hatching eggs. The monthly Hatchery Production report and the weekly report on Commercial Broiler Placements in 22 States give estimates of eggs set in incubators which will produce commercial broiler chicks 3 weeks hence. The national Hatchery Production report gives estimates of the numbers of commercial broiler chicks hatched during the previous month, and the Commercial Broiler Placement Report gives estimates of the numbers of commercial broilers placed in 22 States during the previous week. These are the chicks that will be ready to move to poultry processing plants on the average 10 weeks in the future. Finally, the Commercial Poultry Slaughter Report provides national weekly estimates of the volume of commercial broilers moving from farms through processing plants. The slaughter report bridges the area between production reports at one end of the marketing system and terminal market reports at the other end of the marketing system. It provides current timely information to help those who make marketing decisions.

For the production and marketing of turkeys a similar series of reports is available. The October report on turkey breeder hens gives the earliest estimates of the number of breeders that will be kept over to produce the hatching eggs for the next turkey crop. The monthly report on turkeys tested (for Pullorum disease) gives an indication of the current size of the breeder hen flock at start of the main hatching season. In January a report is issued on farmers' intentions to raise turkeys during the current calendar year. The monthly Hatchery Production report gives estimates of the number of turkey eggs set in incubators at the beginning of the month and the number of turkey poults hatched during the previous month. The weekly report on turkey poults placed in major production States gives current information that supplements the monthly hatchery report. These are the poults that will be ready to move to poultry processing plants 16 to 30 or more weeks later, depending upon breed and farmers' decisions on when to market their birds. Since the bulk of the annual turkey crop is marketed during the fall months, the report issued in August on the number of turkeys raised is an estimate of the size of the current crop. Here, too, the national weekly Commercial Poultry Slaughter Report bridges the gap between production reports and terminal market reports. It provides estimates at the earliest practical stage of marketing on output and whether the crop is being marketed early or late.

With this background, the function of the Commercial Poultry Slaughter Report can be brought into proper perspective. The estimate of poultry slaughter is compared in this section with two estimates of production, broiler chick placements in 22 States, and turkey poult hatchings.

Differences between production estimates on one hand and marketing estimates on the other can and should be expected. They involve estimation of different statistical universes. For example, some of the commercial broilers and turkeys produced on farms are eaten by the farmers themselves, some are sold locally to restaurants and consumers, and some are slaughtered in small processing plants not included in the statistical universe for commercial poultry slaughtering plants. In the long run there should be relatively good agreement between production and marketing estimates for poultry meat because the bulk of the production is marketed through commercial slaughter plants. In the short run, however, the statistical universes for production and for marketing may be behaving differently because of weather, unusually high rates of mortality among the live birds, producer's decisions on when to market, buyer's decisions on when to buy, market prices, equipment breakdowns, strikes, and other factors that may become important at times.

The average live weights at which birds are slaughtered give some indication of marketing decisions made to hold back the birds or to move as many as possible to the slaughtering plants. For example, the average live weight at which young chickens are slaughtered is lighter during the summer months than during the rest of the year (table 9). The period that the birds are slaughtered at lighter weights varies in length, but it occurred in each of the 5 years 1954-58.

An important consideration in preparing statistical estimates concerns the size of sample and sampling errors. As noted earlier, the Commercial Poultry Slaughter Report was based on reports from about 90 percent of the plants in the statistical universe by the end of 1957. Thus, only a minor proportion of the volumes of poultry slaughter needed to be estimated.

During 1955, when reports were being obtained from only about two-thirds of the plants, an analysis of variance was made of the data received for 6 weeks. The weeks were selected to be representative of low, medium, and high volume of slaughter for the different kinds of poultry. The best coefficients of variation were obtained for the slaughter of broilers, fryers, capons, and caponettes. For example, the coefficient of variation for the week ending May 21, 1955, was 2.3 percent for broilers. This means that 95 times out of 100 the estimate of slaughter would be accurate within the range of plus or minus 4.6 percent. The next best coefficients of variation were obtained for hens and cocks; these fell within the range of 4.7 to 6.7 percent. The largest coefficients of variation were obtained for the various kinds of turkeys. In fact, during most of the weeks studied the coefficients of variation for turkeys were so large that the estimates were not meaningful. However, as the heavy slaughter season for turkeys approached, a downward trend in the coefficients of variation became evident which indicated that reasonable estimates probably would have been obtained had the study been extended into the heavy season of turkey slaughter. Since most plants slaughtering turkeys are highly seasonal in their operations it is not surprising to find a large variation in the reliability of the estimates during the "off" seasons.

Table 9.--Young chickens slaughtered in commercial poultry slaughter plants  
and average live weight, by weeks, 1954-58 <sup>1/</sup>

Week number <sup>2/</sup>	Number of birds slaughtered					Average live weight				
	1954	1955	1956	1957	1958	1954	1955	1956	1957	1958
	Million head	Million head	Million head	Million head	Million head	Pounds	Pounds	Pounds	Pounds	Pounds
1 .....	14.6	13.9	15.4	18.9	23.6	3.10	3.14	3.23	3.27	3.31
2 .....	14.2	14.2	18.6	22.6	26.6	3.10	3.12	3.19	3.29	3.26
3 .....	14.0	12.5	19.8	22.8	25.0	3.06	3.10	3.18	3.25	3.26
4 .....	14.6	13.0	19.1	24.6	22.6	3.06	3.10	3.15	3.22	3.22
5 .....	14.5	12.6	17.5	22.9	21.7	3.10	3.13	3.14	3.18	3.25
6 .....	15.5	13.5	17.6	21.4	24.8	3.10	3.08	3.08	3.20	3.23
7 .....	15.0	13.5	17.9	22.1	24.8	3.10	3.06	3.12	3.15	3.19
8 .....	15.3	13.5	18.2	20.7	23.2	3.10	3.05	3.12	3.19	3.14
9 .....	14.4	12.5	18.7	22.2	23.8	3.04	3.04	3.10	3.20	3.14
10 .....	14.2	12.5	18.5	22.4	24.5	3.05	2.98	3.13	3.17	3.15
11 .....	15.8	12.5	19.3	22.4	24.4	3.02	2.99	3.12	3.15	3.20
12 .....	14.7	12.9	18.7	24.0	24.8	3.02	2.98	3.15	3.18	3.22
13 .....	14.1	13.2	18.7	25.6	26.1	3.02	2.99	3.16	3.16	3.24
14 .....	13.8	15.0	18.6	25.1	25.1	3.04	2.72	3.15	3.11	3.23
15 .....	14.1	14.0	21.2	24.3	27.5	3.02	2.98	3.18	3.18	3.25
16 .....	13.9	15.8	21.9	24.5	29.9	3.05	2.98	3.16	3.27	3.28
17 .....	15.5	17.2	20.7	26.1	29.1	3.04	3.02	3.19	3.21	3.25
18 .....	16.4	18.0	21.5	26.5	31.0	3.04	2.98	3.16	3.22	3.18
19 .....	15.9	18.1	22.8	26.6	30.7	3.04	3.00	3.17	3.13	3.21
20 .....	16.4	18.0	22.3	26.4	28.6	3.02	2.99	3.16	3.16	3.26
21 .....	16.3	18.2	24.0	28.1	31.6	3.01	3.00	3.14	3.16	3.26
22 .....	14.5	16.5	20.3	24.1	28.1	3.00	2.97	3.19	3.21	3.19
23 .....	15.8	18.3	24.7	27.3	29.3	2.99	3.00	3.22	3.21	3.20
24 .....	16.8	18.4	26.0	27.0	30.1	2.96	3.01	3.18	3.17	3.21
25 .....	16.5	19.3	25.3	26.7	30.5	2.96	3.01	3.09	3.08	3.18
26 .....	16.8	19.9	27.0	28.9	33.1	2.91	2.99	3.08	3.13	3.21
27 .....	15.2	17.0	23.0	28.5	29.9	2.92	2.93	2.93	3.11	3.19
28 .....	16.5	19.1	24.6	28.8	31.9	2.95	2.93	3.12	3.12	3.23
29 .....	15.9	18.2	24.4	26.6	33.2	2.92	2.92	3.07	3.09	3.22
30 .....	15.9	18.0	25.3	26.7	35.0	2.92	2.94	3.09	3.12	3.21
31 .....	15.8	18.2	26.3	27.1	35.6	2.92	2.92	3.06	3.10	3.15
32 .....	15.7	18.5	26.5	27.6	34.2	2.95	2.92	3.09	3.12	3.17
33 .....	15.7	18.5	28.6	28.3	33.4	3.02	2.95	3.08	3.12	3.20
34 .....	17.3	19.5	26.9	28.9	35.1	2.94	2.96	3.09	3.17	3.20
35 .....	17.3	20.0	27.4	29.6	38.0	2.95	3.02	3.07	3.16	3.19
36 .....	15.5	18.3	26.4	26.6	33.0	2.96	2.98	3.08	3.18	3.22
37 .....	16.5	20.0	29.7	29.9	34.5	2.97	2.92	3.08	3.18	3.22
38 .....	16.9	20.3	26.1	27.4	32.5	3.00	3.06	3.20	3.19	3.26
39 .....	17.3	20.3	24.4	27.4	33.9	3.03	3.10	3.22	3.21	3.27
40 .....	18.3	20.3	27.0	29.2	33.5	3.02	3.11	3.28	3.26	3.29
41 .....	17.6	20.7	26.7	29.1	31.7	3.00	3.20	3.19	3.24	3.34
42 .....	16.2	19.8	26.1	27.6	33.5	3.01	3.23	3.20	3.25	3.36
43 .....	15.5	20.4	25.4	24.2	31.8	3.06	3.22	3.22	3.32	3.38
44 .....	15.3	20.2	25.9	25.5	29.7	3.07	3.22	3.24	3.30	3.39
45 .....	16.1	18.8	26.1	27.7	28.5	3.08	3.18	3.28	3.29	3.42
46 .....	16.4	17.5	20.9	26.1	27.7	3.12	3.14	3.28	3.23	3.39
47 .....	12.1	11.0	14.9	23.1	26.6	3.08	3.20	3.25	3.24	3.39
48 .....	17.4	16.8	22.5	17.0	20.6	3.11	3.21	3.33	3.25	3.40
49 .....	16.8	17.9	27.4	25.5	29.8	3.18	3.15	3.29	3.26	3.39
50 .....	16.3	18.3	24.2	25.9	29.1	3.09	3.17	3.24	3.28	3.34
51 .....	12.6	14.6	20.6	22.6	25.6	3.14	3.16	3.20	3.23	3.34
52 .....	13.1	14.8	17.6	18.8	18.5	3.11	3.23	3.24	3.26	3.35

<sup>1/</sup> Broilers, fryers, capons, and caponettes.

<sup>2/</sup> The weeks end on Saturday. Week number 1 ends January 9, 1954; January 8, 1955; January 7, 1956; January 5, 1957; and January 4, 1958.



## Young Chicken Slaughter and Broiler Chick Placements

Slaughter of all young chickens is often compared with the placement of broiler chicks in 22 States by lagging the data on placements. Differences can and should be expected between the two series. As noted earlier, some of the variation between the two series is accounted for by the decisions made on when to slaughter the birds. Average live weights at the time of slaughter give some indication of these decisions.

Broiler chicks placed and eggs set are published weekly for 22 States. The report is based on almost complete coverage of broiler-type chick hatcheries in the 22 States. Placements relate to commercial broilers and do not include chicks that are marketed from general farm flocks. The weekly estimates of commercial slaughter include totals for the 48 States. The report is based on almost complete coverage of commercial poultry slaughter plants, that is, plants that slaughter 30,000 pounds or more live weight of all kinds of poultry on the average, per week, while in operation. The estimates do not include farm slaughter or slaughter in plants that slaughter less than 30,000 pounds per week. The classification "all young chickens" includes broilers, fryers, roasters, and capons.

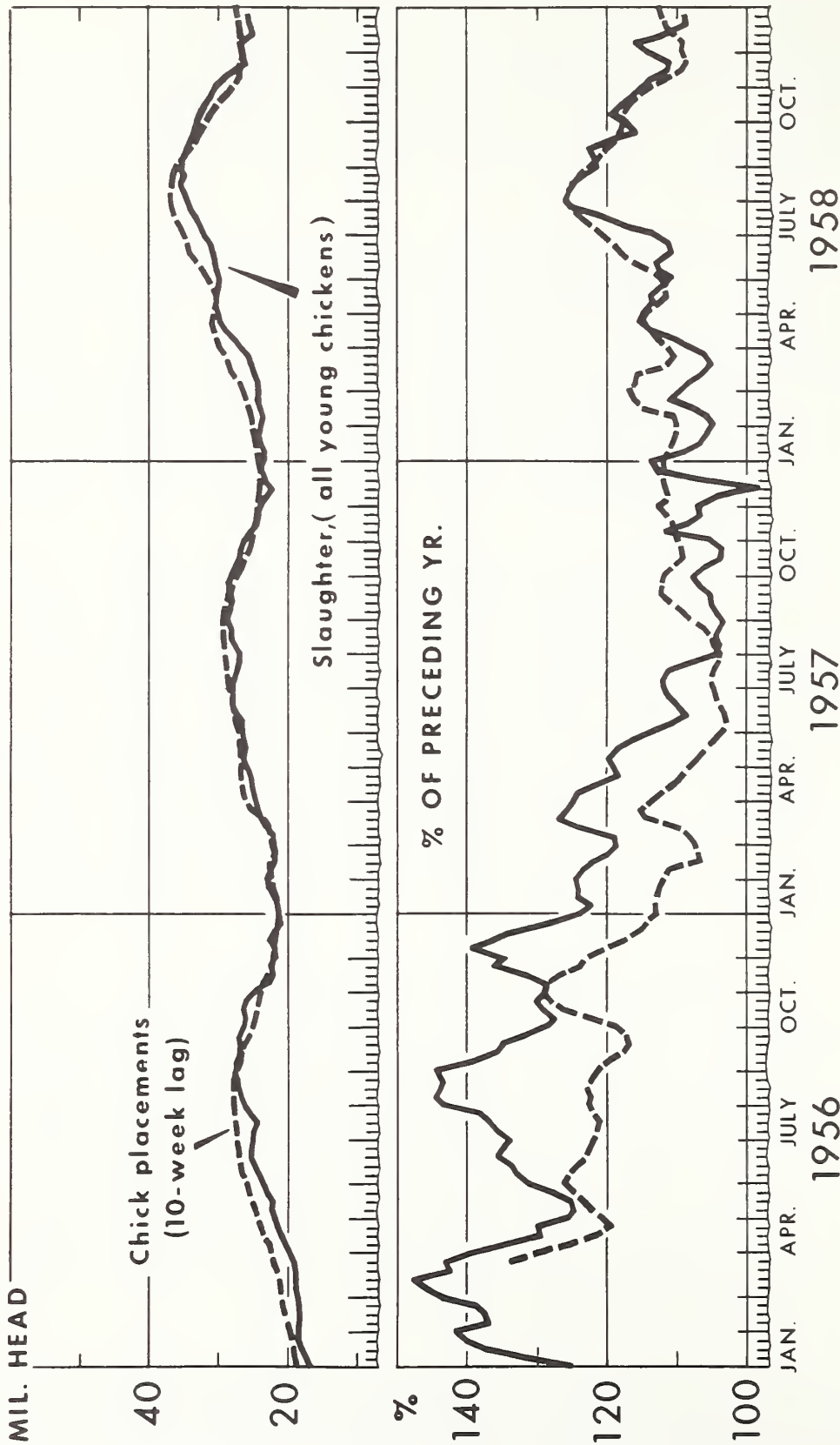
Relatively good agreement is apparent between the slaughter and placements series. Since week-to-week variations may obscure trends, each series was smoothed by use of a 5-week moving average. The chick placement series was lagged 10 weeks so that comparisons could be made more easily with the slaughter data. For the years 1956-58 a 10-week lag is better than a shorter or longer lag. Both series reveal the upward trend from year-to-year and the variations within each of the years (fig. 5, upper portion). The same data were used to obtain percentage changes from the year preceding and on this basis somewhat more variation between the series is apparent (fig. 5, lower portion). However, over the span of the 3 years shown both series show declines in the percentage changes from a year earlier. Better agreement between the two series is also apparent through time and as the amplitude of the cycles of change diminishes.

## Turkey Slaughter and Poult Hatchings

When comparisons are made between the slaughter of turkeys and hatchings of turkey poults, it is necessary to compare weekly and monthly data. The comparisons are more difficult than for broilers because of the sharp seasonal variation in both turkey series, and because an assumption must be made regarding the time lag to be used. There is more latitude in deciding when to slaughter turkeys than there is for broilers and fryers because (1) different kinds of turkeys are raised to be marketed at different sizes and ages, and (2) some kinds of turkeys are raised that can be marketed at a variety of weights and ages. Nevertheless, it appears that a time lag of 6 months best fits the data. In addition, a 5-week moving average was used to smooth the week-to-week variation in turkey slaughter.

The upper portion of figure 6 shows the sharp seasonal variation in both series, and emphasizes the importance of the last 4 months of each year in turkey slaughter. Considering the difficulties discussed above, there is a fairly good relationship between the two series.

# CHICKEN SLAUGHTER AND PLACEMENTS



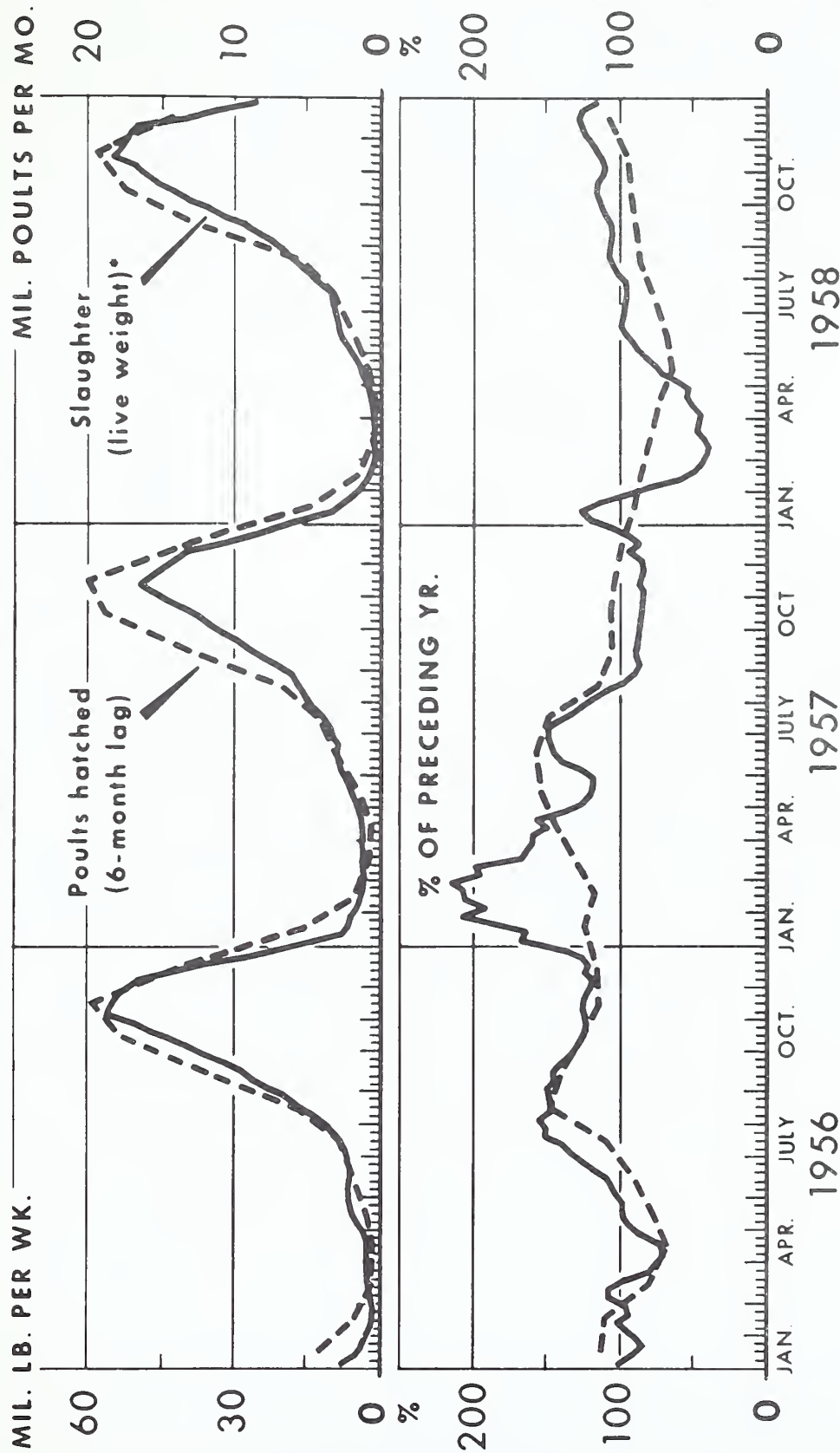
WEEKLY DATA; 5-WEEK MOVING AVERAGE

U. S. DEPARTMENT OF AGRICULTURE

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Figure 5

# TURKEY SLAUGHTER AND HATCHINGS



\* 5-WEEK MOVING AVERAGE

U. S. DEPARTMENT OF AGRICULTURE

NEG. 7732-60 (3) AGRICULTURAL MARKETING SERVICE

Figure 6

The lower portion of figure 6 shows percentage changes from the preceding year for each of the series. Although there is greater variation in the slaughter data than in the hatching data, there is a reasonable relationship between the two series. The significant area of comparison is the last 4 months of each year, and in those months the relationship between the series is better than in the earlier months. A factor accounting for the difference between the series is probably the average live weights at which the birds are slaughtered. A shift in average live weights at time of slaughter would affect the comparisons between the series more sharply in the spring and summer months when the volume of slaughter is low than in the fall months when the volume of slaughter is high.



